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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,015	11/26/2003	Alexei A. Erchak	16459-011001	7556
26161	7590	02/28/2006	EXAMINER HODGES, MATTHEW P	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			ART UNIT 2879	PAPER NUMBER

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/724,015

Applicant(s)

ERCHAK, ALEXEI A.

Examiner

Matt P. Hodges

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 27-54, 56, 60, 63 and 64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27, 32, 35-52, 56, 60, 63 and 64 is/are rejected.
- 7) ☒ Claim(s) 28-31, 33, 34, 53 and 54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/8/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date, \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment, filed on 12/8/2005, has been entered and acknowledged by the Examiner.

Cancellation of claims 1-26, 55, 57-59, 61, and 62 has been entered.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 27, 32, 39, 45, 46, 56 and 63 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 67 of U.S. Patent No. 6,831,302 in view of Krames. The claims are identical except for the inclusion of the side dimension of 1mm and for the recitation of the extraction efficiency being independent of the edge length. However extraction efficiency is a product of wave guide modes, and as such is dependent on the structure of the emitting face. In this case, the pattern of holes would eliminate edge to extraction efficiency dependencies. (See rejection filed 9/21/2005 for further details) Further Krames establishes the common use of light emitting devices with edges of 1mm.

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The following claims in the left hand column of the table below are rejected for the same reasons as stated above with the corresponding '302 claim on the right hand column.

Applicant's Claims	Rejected over corresponding claim
35	68
36	69
37	70
38	71
40	72
41	73
42	74
43	75
44	76
47	56
48	77
49	78
50	87
51	88
52	89
60	90

Claims 27, 32, 35-40, and 43 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 21 of allowed U.S. Patent Application No. 10/724,006 in view of Krames. The claims are identical except for the inclusion of the side dimension of 1mm and for the recitation of the extraction efficiency being independent of the edge length. However extraction efficiency is a product of wave guide modes, and as such is dependent on the structure of the emitting face. In this case, the pattern of holes would eliminate edge to extraction efficiency dependencies. (See rejection filed 9/21/2005 for further details) Further Krames establishes the common use of light emitting devices with edges of 1mm.

Claims 56 and 63 are further rejected in view of claim 28 of application '006 in view of Krames as described above.

Claims 27, 32 and 38 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/724,029 in view of Krames. The claims are identical except for the inclusion of the side dimension of 1mm and for the recitation of the extraction efficiency being independent of the edge length. However extraction efficiency is a product of wave guide modes, and as such is dependent on the structure of the emitting face. In this case, the pattern of holes would eliminate edge to extraction efficiency dependencies. Further Krames establishes the common use of light emitting devices with edges of 1mm.

The following claims in the left hand column of the table below are rejected for the same reasons as stated above with the corresponding '029 claim on the right hand column.

Applicant's Claims	Rejected over corresponding claim
39	7
42	12
45	19
46	20
47	21
48	13
49	14
50	15
51	16
52	17
56	25
60	29
63	25
64	25

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This is a provisional obviousness-type double patenting rejection. However as this case has been allowed, the provisional rejection will not be lifted even if all other issues have been resolved.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 56, 60, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rastani (US 5,073,041) in view of Krames et al. (US 2003/0141507).

Regarding claims 56 and 63, Rastani discloses (see figure 2) a light emitting device including a multi-layer stack of materials further including a light generating region (10), and a first layer (22) supported by the light generating region, and a support (18). The first layer includes the pattern of holes (21) which serves to collimate or focus the light emitted by the active region. (Column 3 lines 35-45). Rastani further discloses (see figure 4) a pattern where the circles are offset to focus the beam off center. This pattern is therefore not periodic. Rastani does not appear to specify the inclusion of the side dimension of 1mm and for the recitation of the extraction efficiency being independent of the edge length. However extraction efficiency is a product of wave-guide modes, and as such is dependent on the structure of the emitting face. In this case, the pattern of holes or rings would eliminate edge to extraction efficiency dependencies. Further Krames establishes the common use of light emitting devices with edges

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of 1mm. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the inclusion of the side dimension of 1mm and for the extraction efficiency being independent of the edge length as taught by Krames into the device as disclosed by Rastani in order to advantageously increase device brightness and surface area.

Regarding claim 60, the rings are formed with a depth of about  $\lambda/5$ . (Column 3 lines 55-65).

***Allowable Subject Matter***

Claims 28-31, 33, 34, 53 and 54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 28, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 28, and specifically comprising the limitation the length of the edge being greater than 1.5mm.

Regarding claims 29-31, claims 29-31 are allowable for the same reasons given in claim 28.

Regarding claim 33 and 34, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 33 and 34, and specifically comprising the limitation of a light emitting device as disclosed further including the limitation of at least 90% of the emitting light being emitting from the front surface.

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Regarding claim 53, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 53, and specifically comprising the limitation of a light emitting device as disclosed in the form of a packaged light-emitting device.

Regarding claim <sup>5A</sup>53, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim <sup>5A</sup>53, and specifically comprising the limitation of a light emitting device as disclosed in the form of a packaged die.

### ***Response to Arguments***

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,



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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (571) 272-2454. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mph



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